

Fig.1

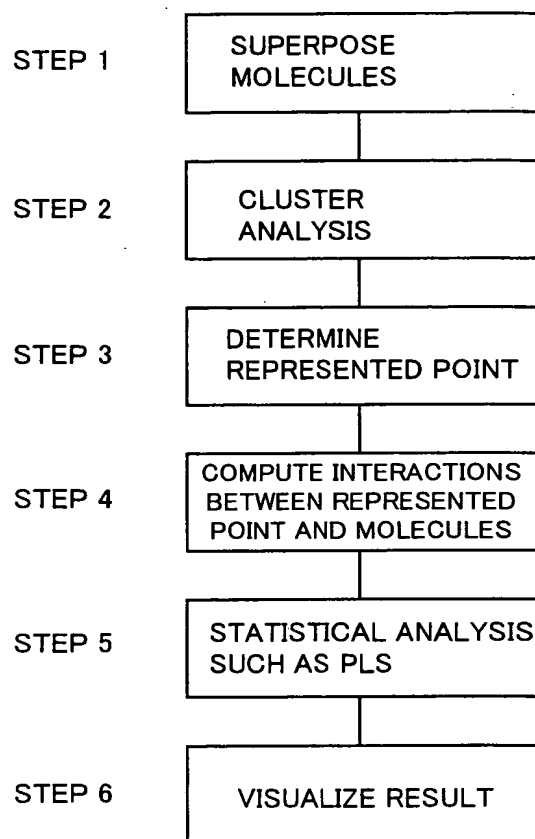


Fig.2A

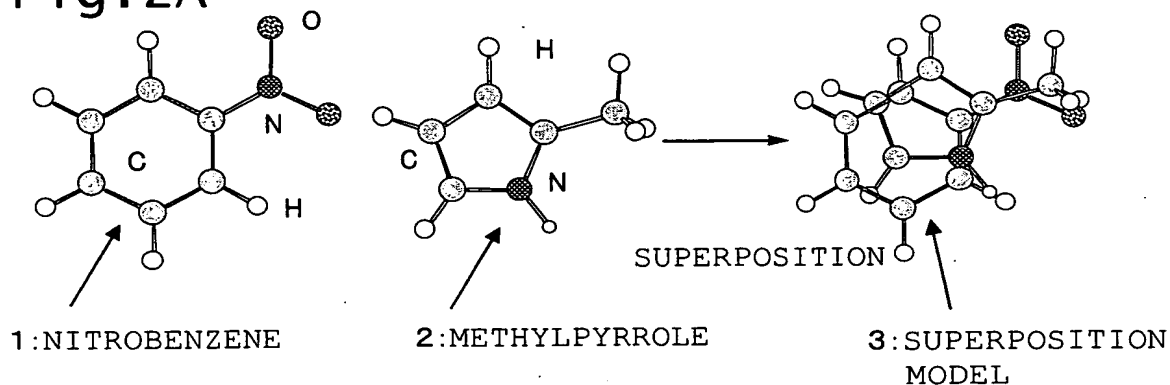


Fig.2B

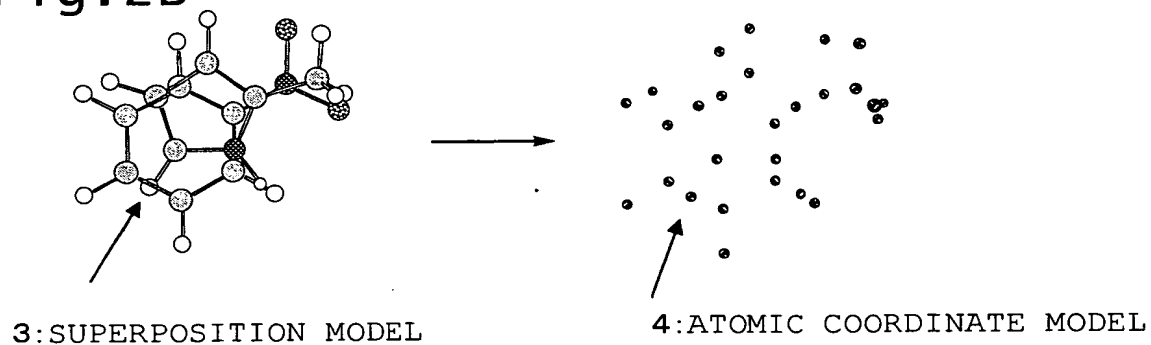


Fig.2C

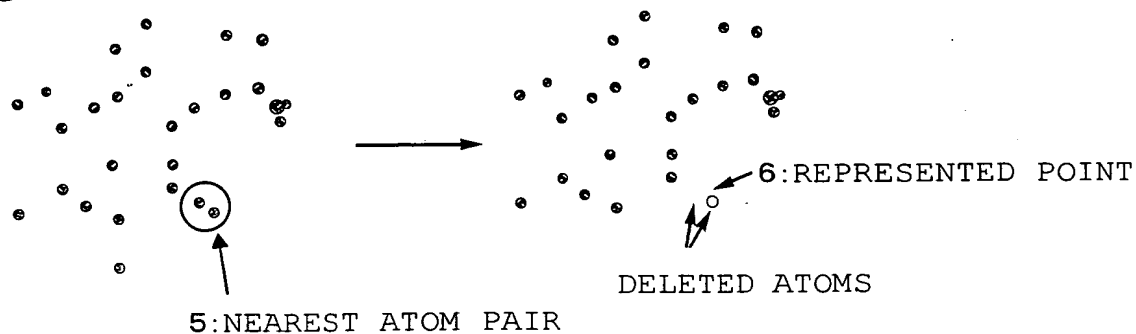


Fig.2D

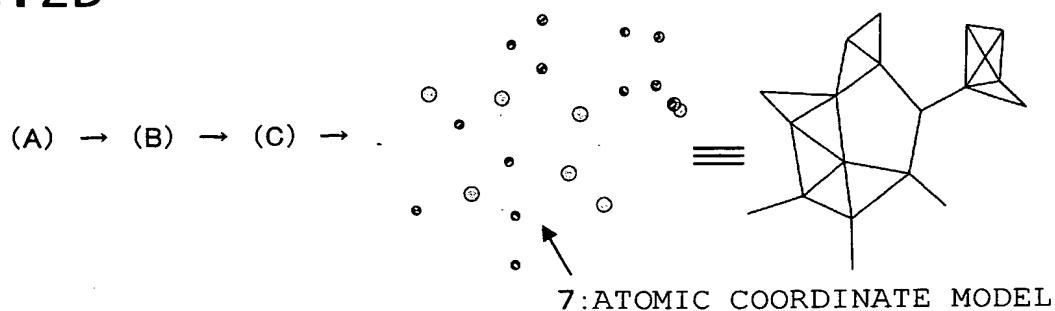
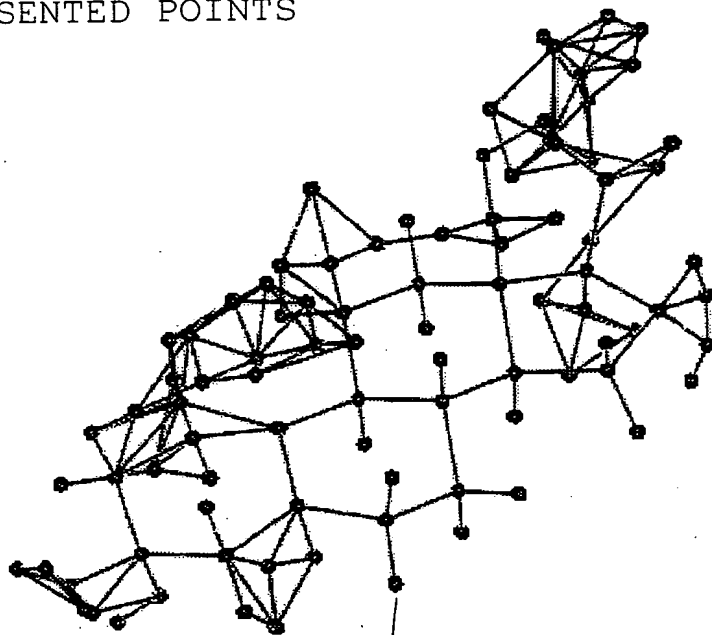


Fig.3

REPRESENTED POINTS



SPREAD SHEET

	Acti- vity	S01	S02	S03 ... S50	E01 ... E50
COMPOUND 1	5.1				
COMPOUND 2	6.8				
...					
...					
...					
...					
COMPOUND20					

PLS

STRUCTURE-ACTIVITY RELATIONSHIP FORMULA

$$\text{ACTIVITY} = y + a \times S01 + b \times S02 + \dots + z \times E50$$

Fig. 4

COMPOUND SET USED FOR VERIFICATION OF 3D QSAR

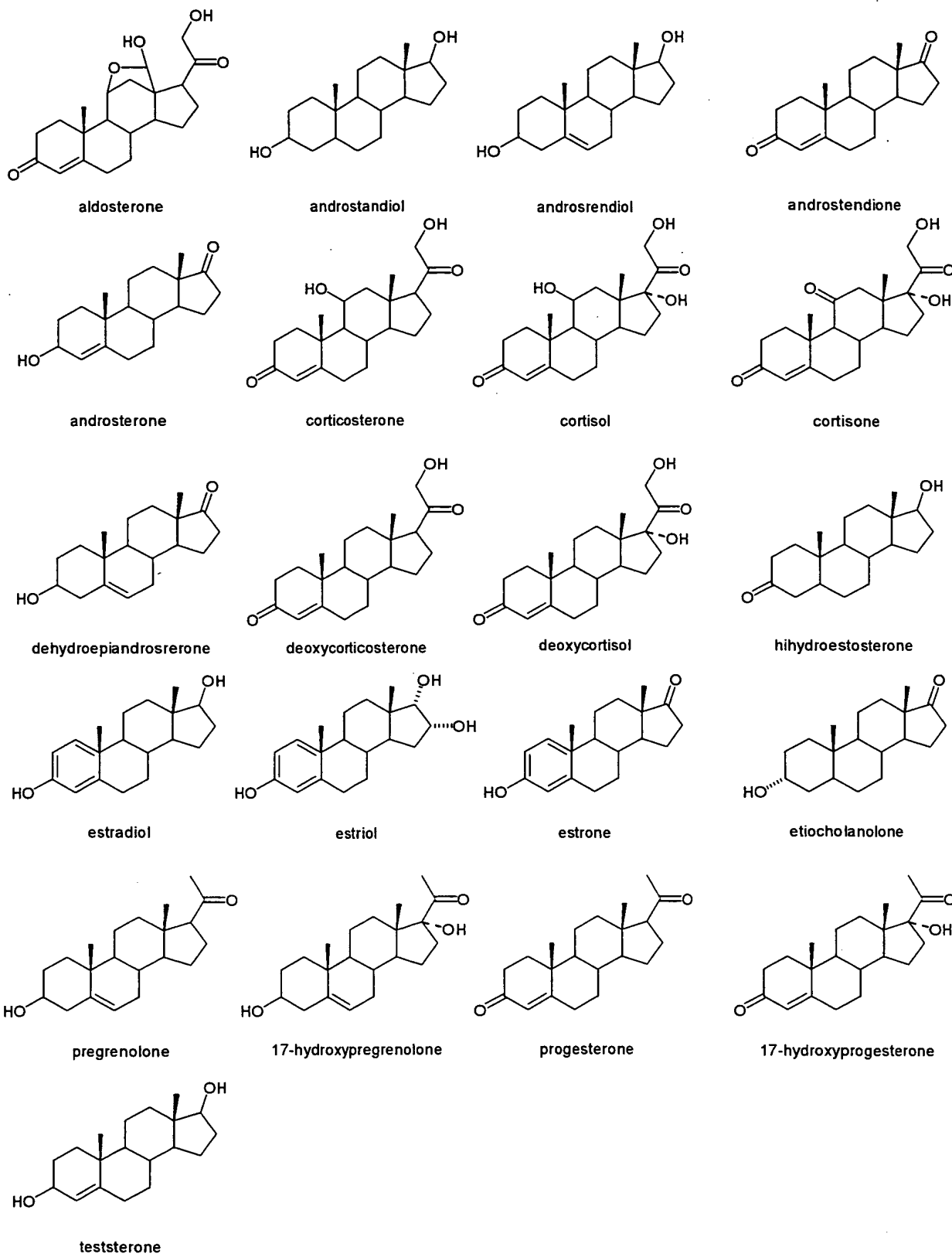
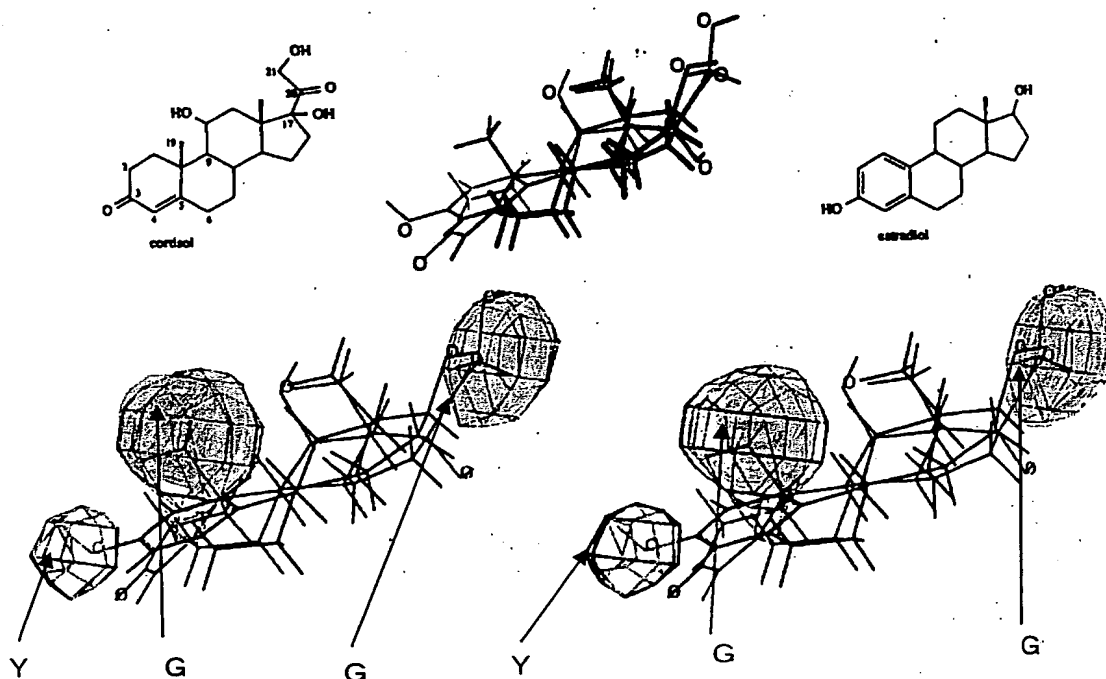


Fig.5

ISOCONTOUR MAPS OF STERIC CONTRIBUTIONS IN CoMSIA

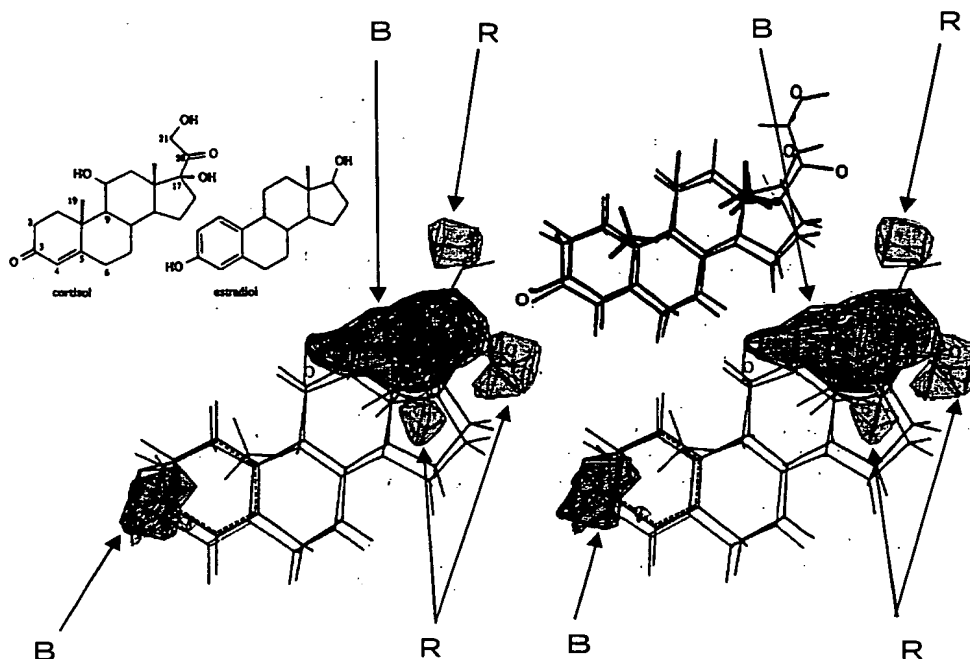


G: REGIONS WHERE ACTIVITY WILL BE ENHANCED
STERICALLY

Y: REGIONS WHERE ACTIVITY WILL BE WEAKENED
STERICALLY

Fig.6

ISOCONTOUR MAPS OF ELECTROSTATIC CONTRIBUTIONS IN CoMSIA



THICK LINES: REGIONS WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
THIN LINES: REGIONS WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY
B: REGIONS WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
R: REGIONS WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY

Fig.7

REPRESENTED POINTS ARE GENERATED BASED ON
ATOMIC COORDINATES OF SUPERPOSED MOLECULES
(POINTS OF INTERSECTION ARE REPRESENTED POINTS)

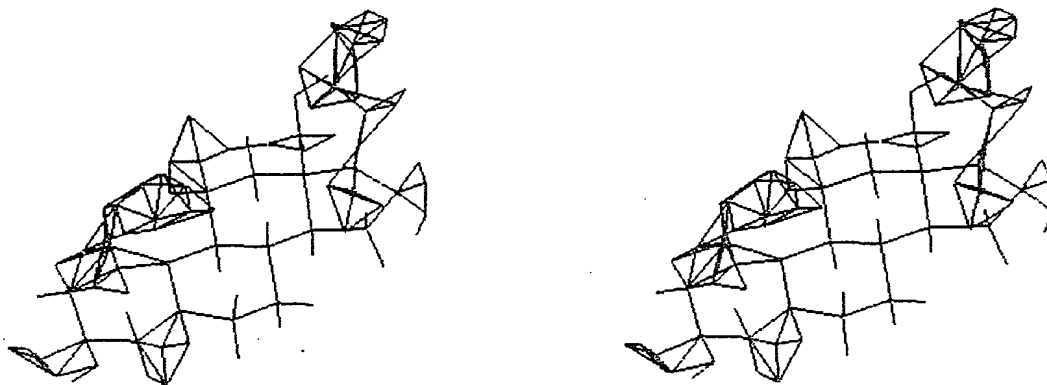


Fig.8

REPRESENTED POINTS ARE GENERATED,
ADDING NEW POINTS IN CENTRAL PORTION OF RING

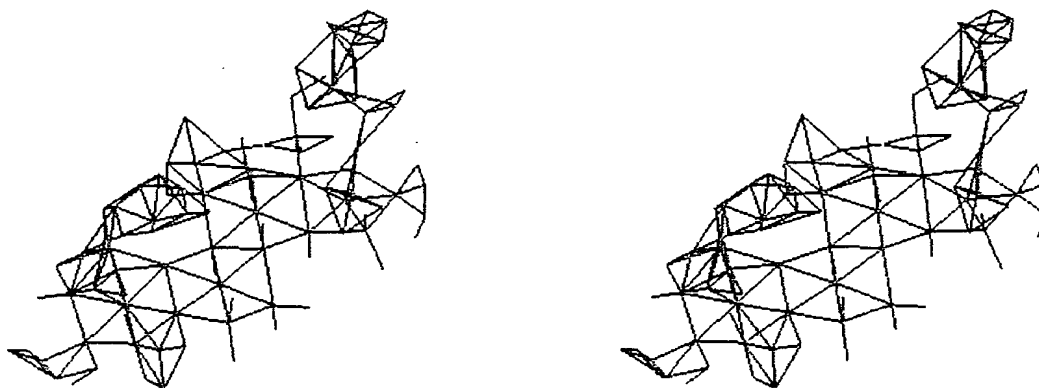
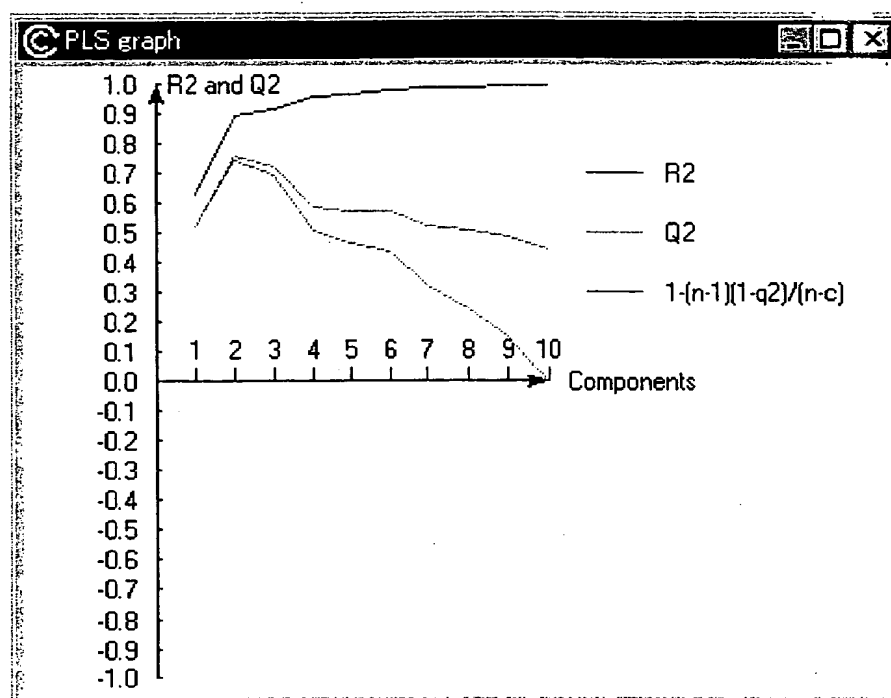


Fig.9

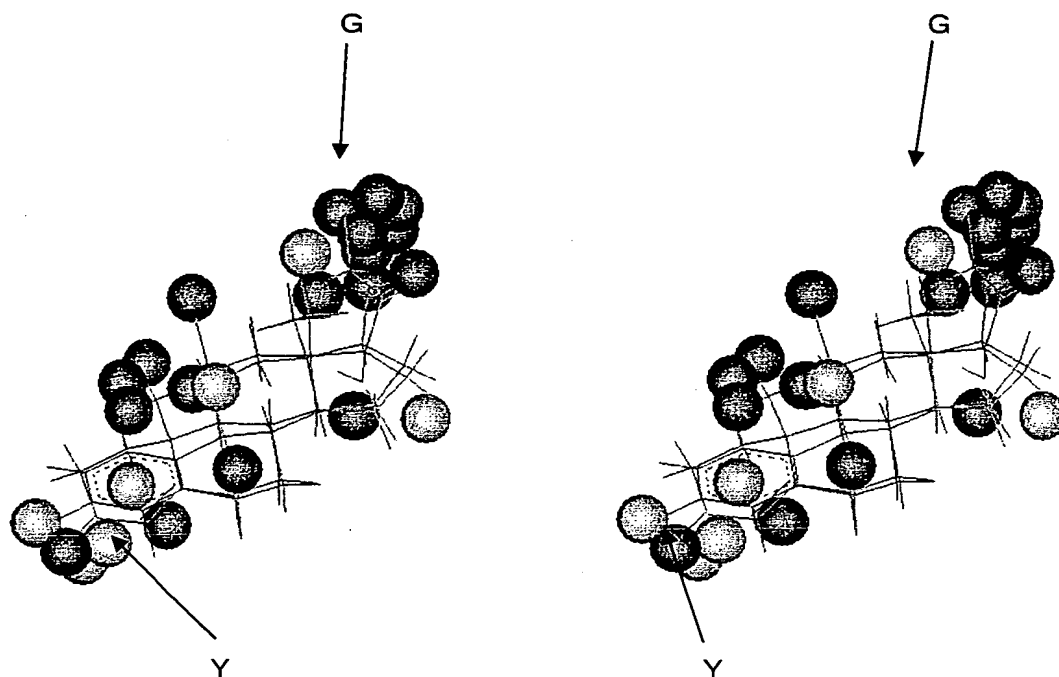


Components 2

R2: 0.899

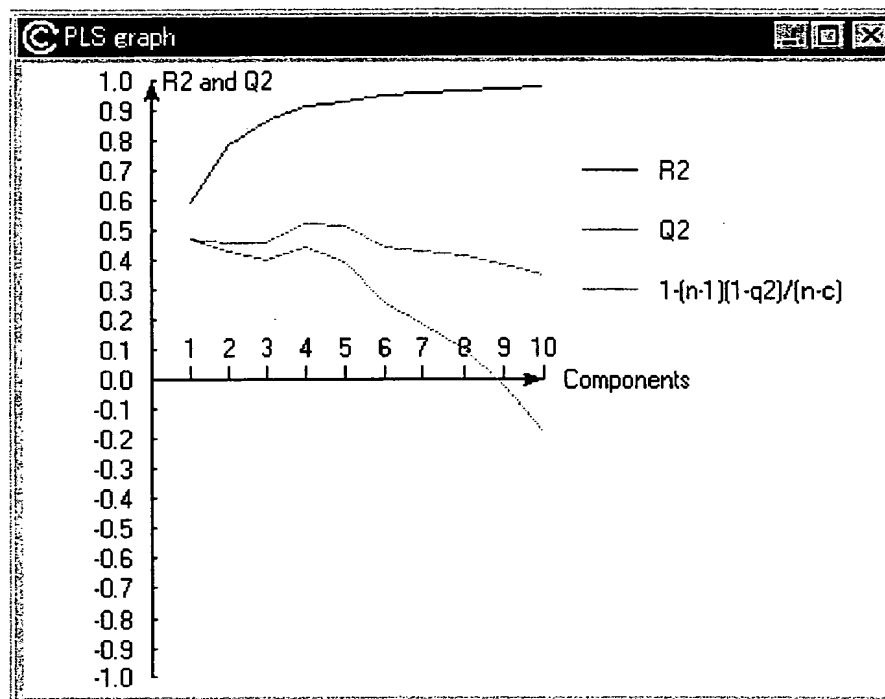
Q2: 0.760

Fig.10



G: REGIONS WHERE ACTIVITY WILL BE ENHANCED STERICALLY
 Y: REGIONS WHERE ACTIVITY WILL BE WEAKENED
 (REGIONS WHERE COEFFICIENT
 IN EACH COLUMN \times STANDARD DEVIATION IS 0.1 OR MORE)

Fig.11



Components 4

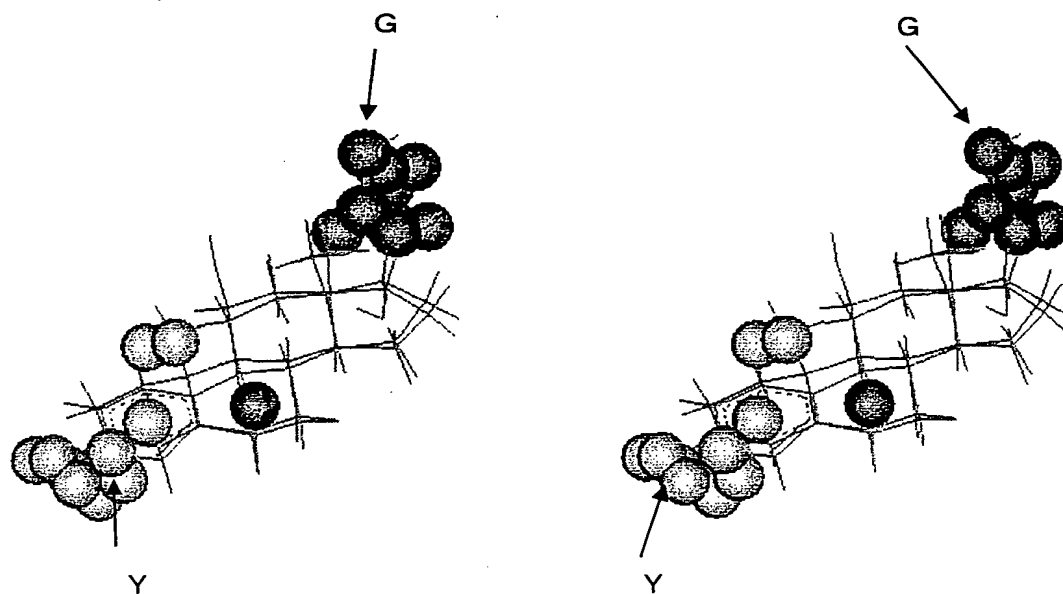
R2: 0.915

Q2: 0.528

Electrostatic :0.757

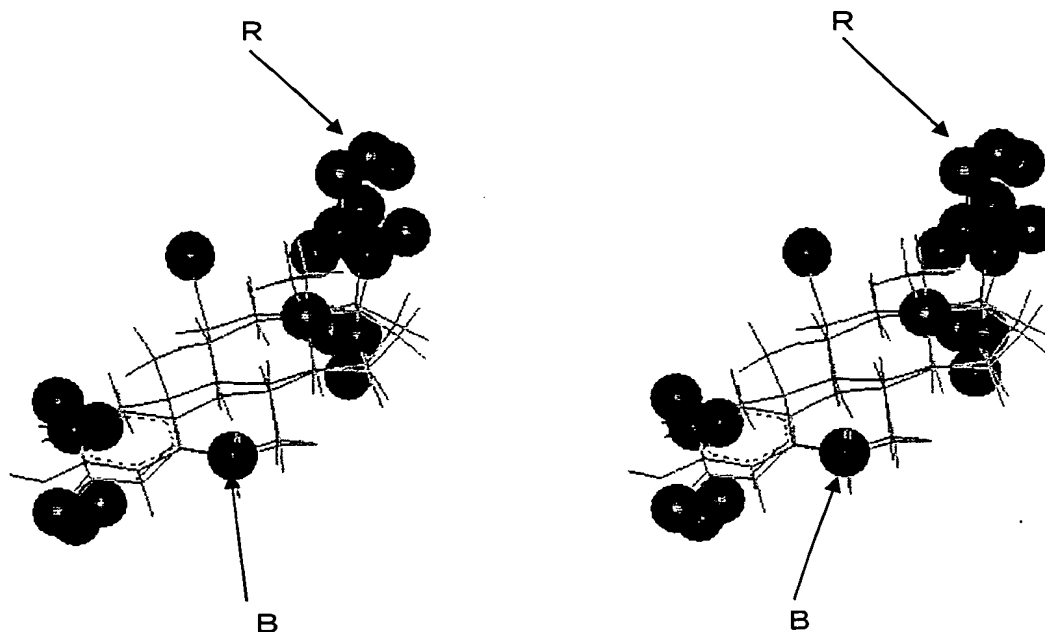
Steric :0.243

Fig.12



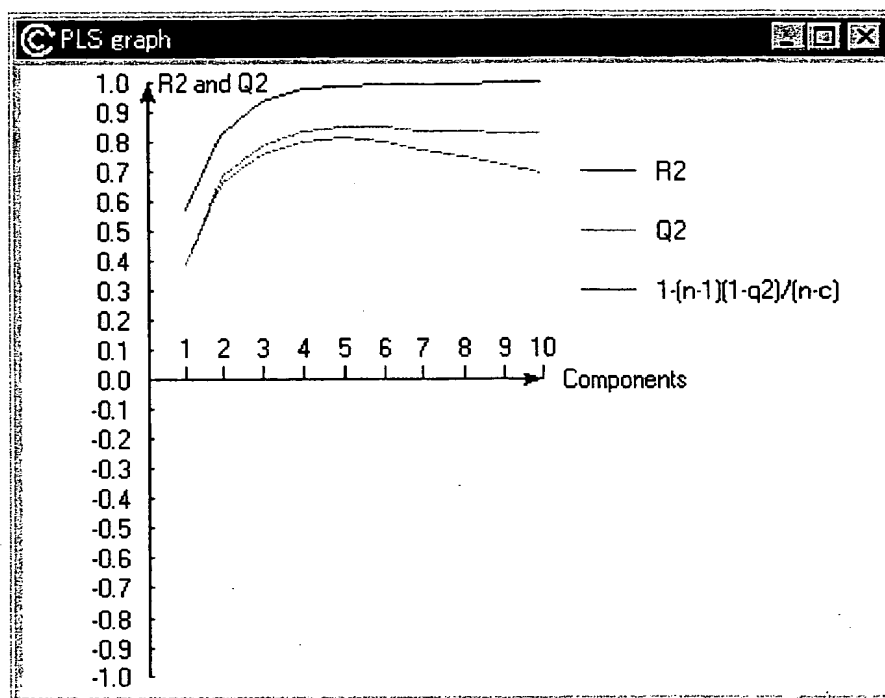
G: REGIONS WHERE ACTIVITY WILL BE ENHANCED STERICALLY
Y: REGIONS WHERE ACTIVITY WILL BE WEAKENED
(REGIONS WHERE COEFFICIENT
IN EACH COLUMN \times STANDARD DEVIATION IS 0.1 OR MORE)

Fig.13



B: REGIONS WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
R: REGIONS WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY
(REGIONS WHERE COEFFICIENT
IN EACH COLUMN \times STANDARD DEVIATION IS 0.2 OR MORE)

Fig.14



Components 4

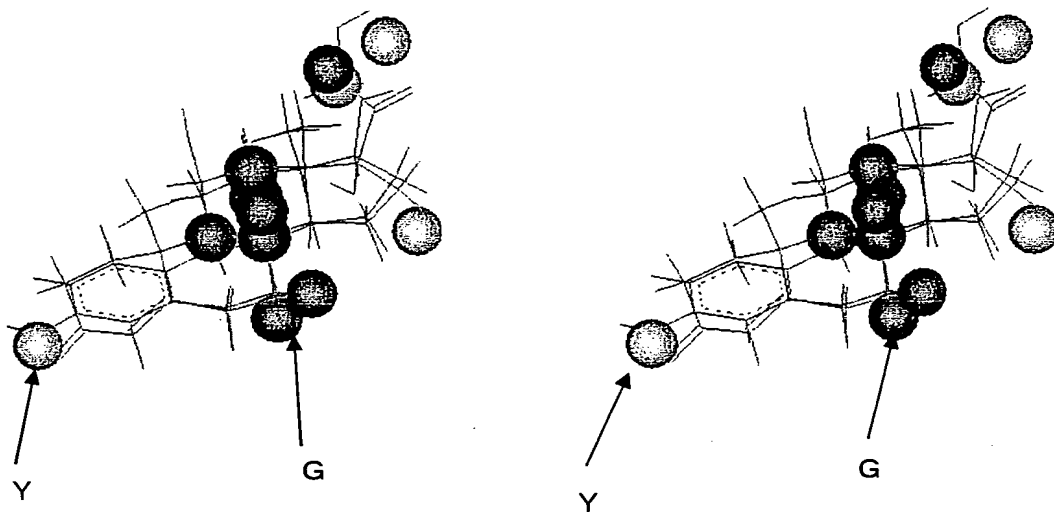
R2: 0.984

Q2: 0.822

Electrostatic :0.458

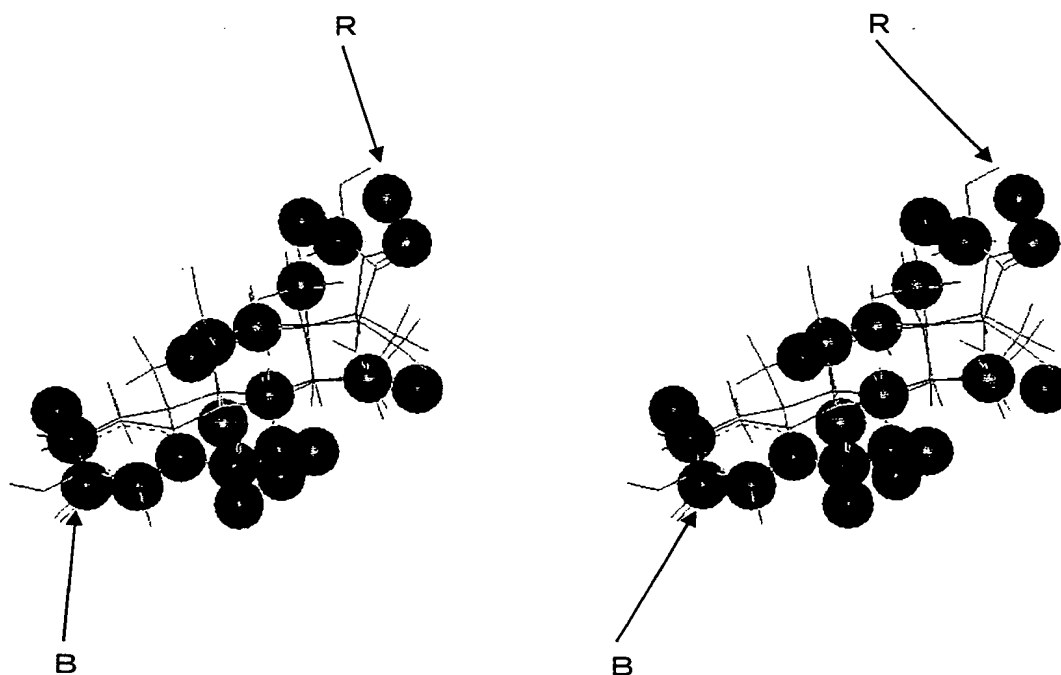
Steric :0.542

Fig.15



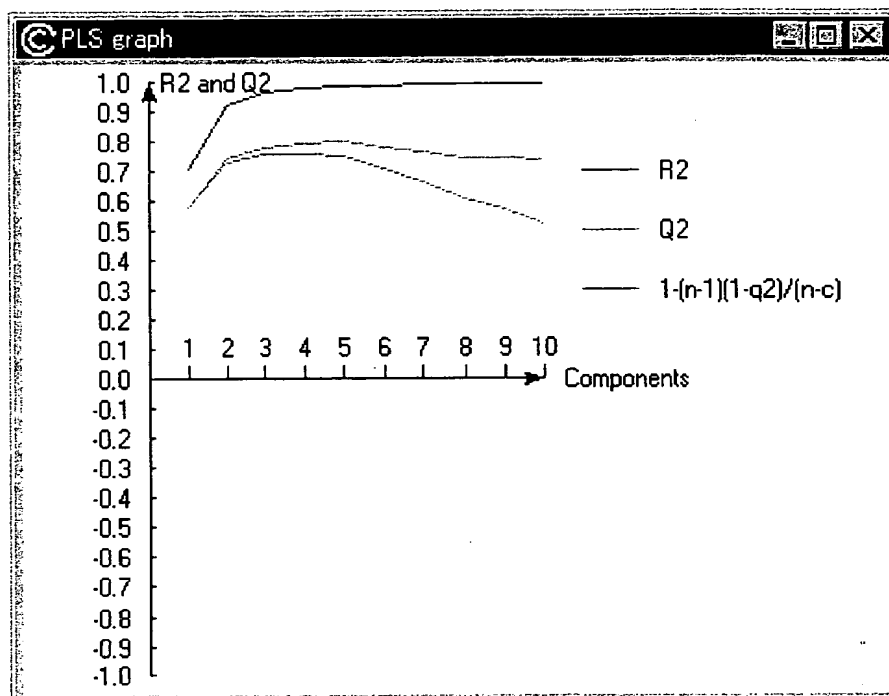
G: REGIONS WHERE ACTIVITY WILL BE ENHANCED STERICALLY
Y: REGIONS WHERE ACTIVITY WILL BE WEAKENED
(REGIONS WHERE COEFFICIENT
IN EACH COLUMN \times STANDARD DEVIATION IS 0.2 OR MORE)

Fig.16



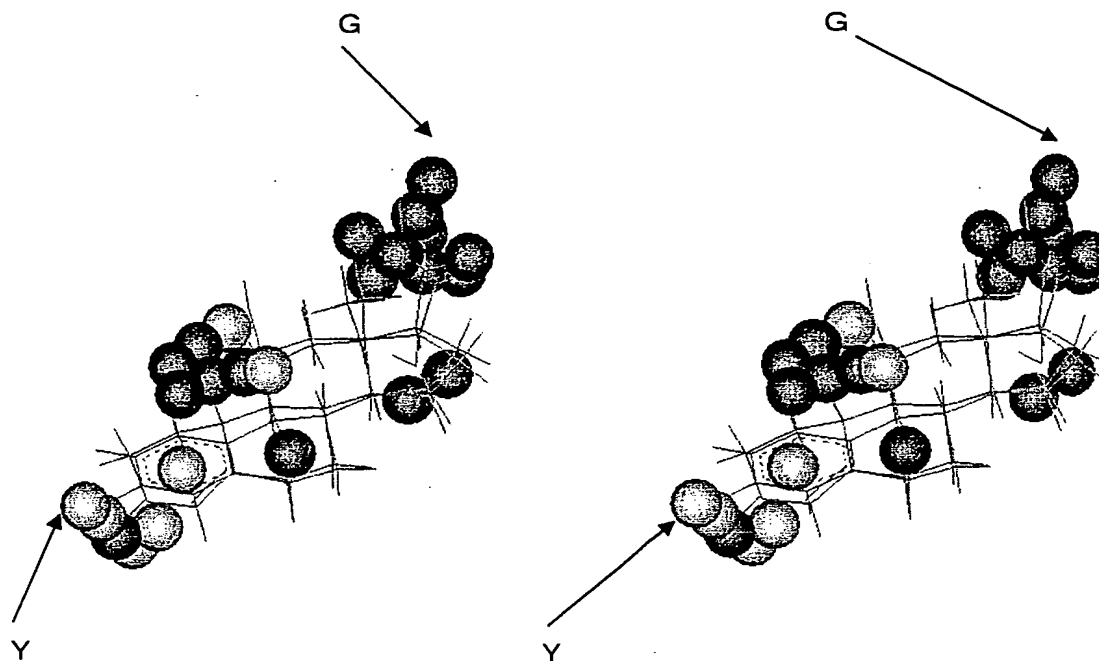
B: REGIONS WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
 R: REGIONS WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY
 (REGIONS WHERE COEFFICIENT
 IN EACH COLUMN \times STANDARD DEVIATION IS 0.2 OR MORE)

Fig.17



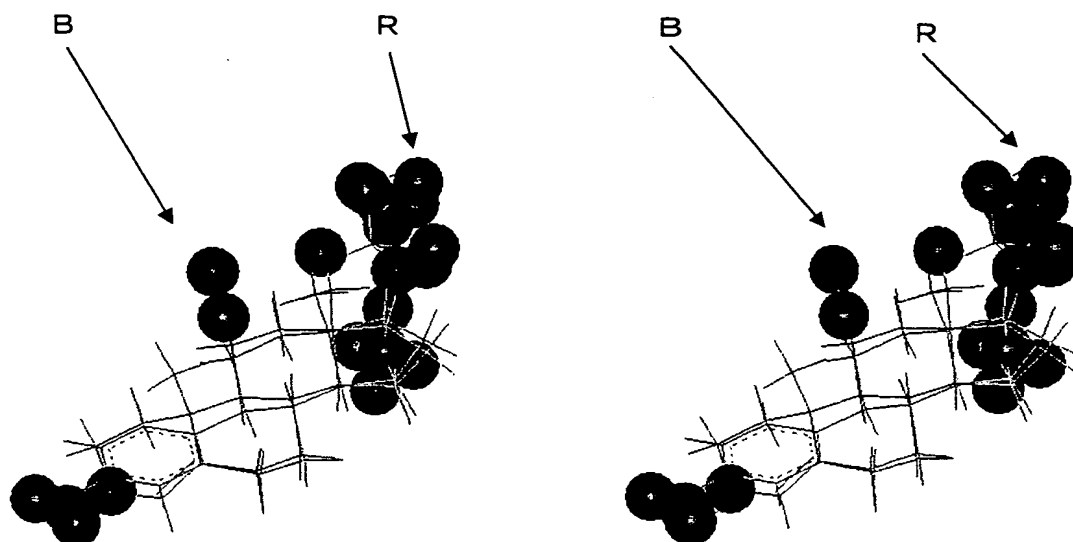
Components 4
R2: 0.982
Q2: 0.798
Electrostatic :0.500
Steric :0.500

Fig.18



G: REGIONS WHERE ACTIVITY WILL BE ENHANCED STERICALLY
Y: REGIONS WHERE ACTIVITY WILL BE WEAKENED
(REGIONS WHERE COEFFICIENT
IN EACH COLUMN \times STANDARD DEVIATION IS 0.15 OR MORE)

Fig.19

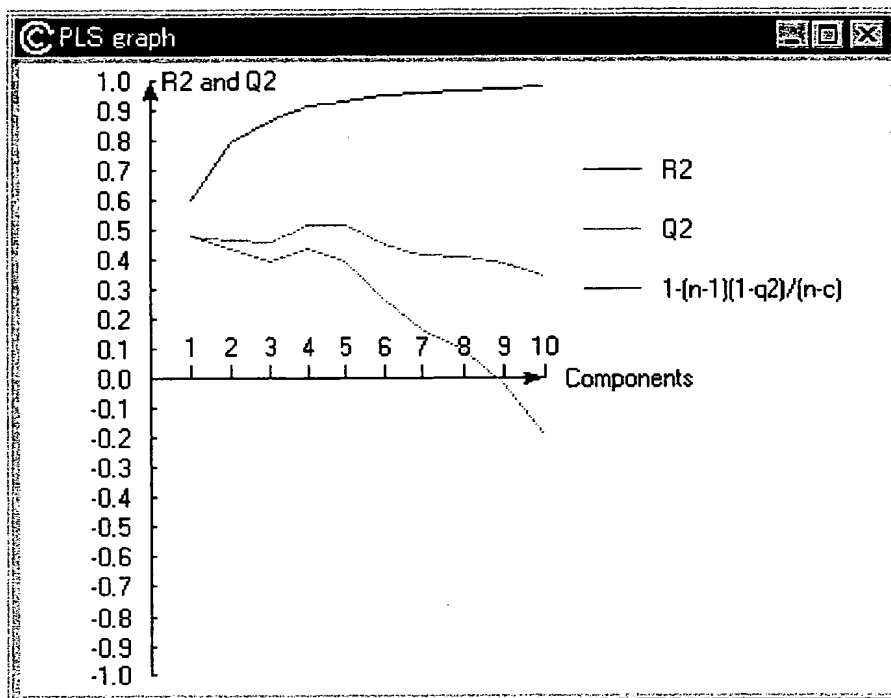


B: REGIONS WHERE POSITIVE CHARGES WILL ENHANCE
ACTIVITY

R: REGIONS WHERE NEGATIVE CHARGES WILL ENHANCE
ACTIVITY

(REGIONS WHERE COEFFICIENT
IN EACH COLUMN \times STANDARD DEVIATION IS 0.2 OR MORE)

Fig.20



Components 4

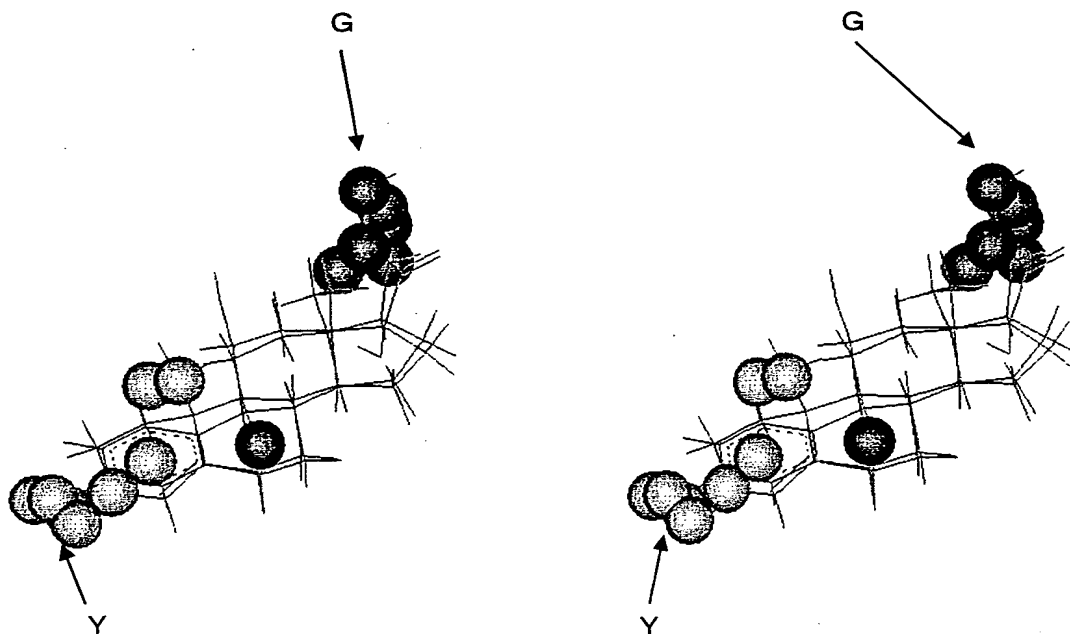
R2: 0.915

Q2: 0.521

Electrostatic :0.783

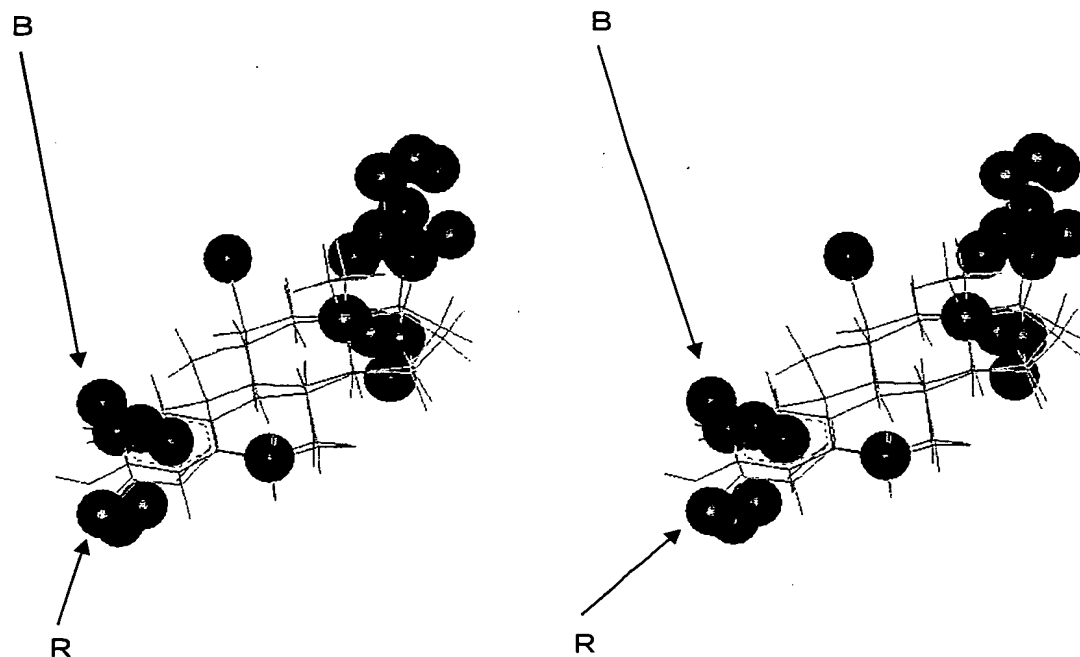
Steric :0.217

Fig.21



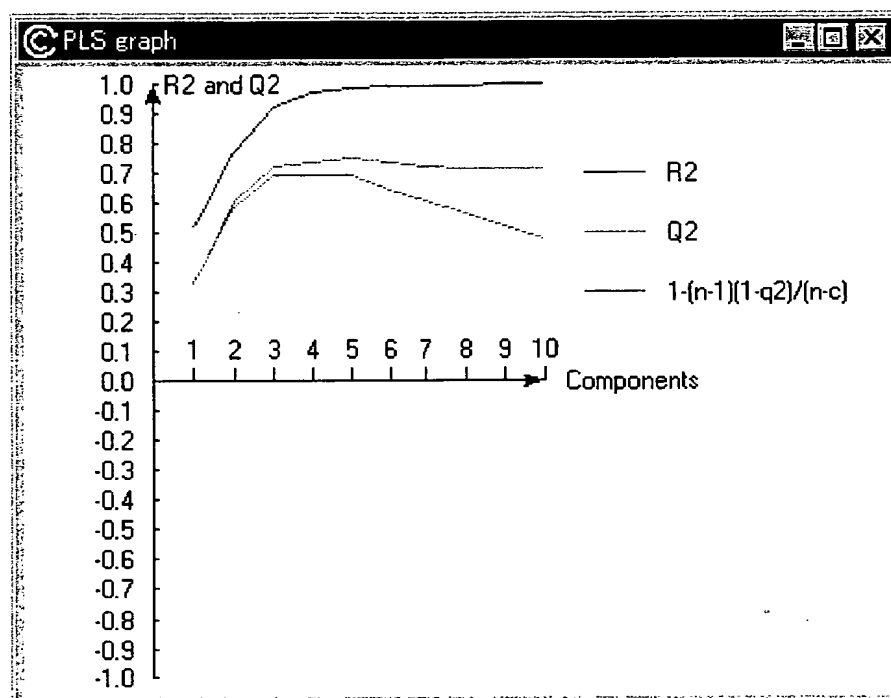
G: REGIONS WHERE ACTIVITY WILL BE ENHANCED STERICALLY
Y: REGIONS WHERE ACTIVITY WILL BE WEAKENED
(REGIONS WHERE COEFFICIENT
IN EACH COLUMN \times STANDARD DEVIATION IS 0.1 OR MORE)

Fig.22



B: REGIONS WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
R: REGIONS WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY
(REGIONS WHERE COEFFICIENT
IN EACH COLUMN \times STANDARD DEVIATION IS 0.3 OR MORE)

Fig.23



Components 4

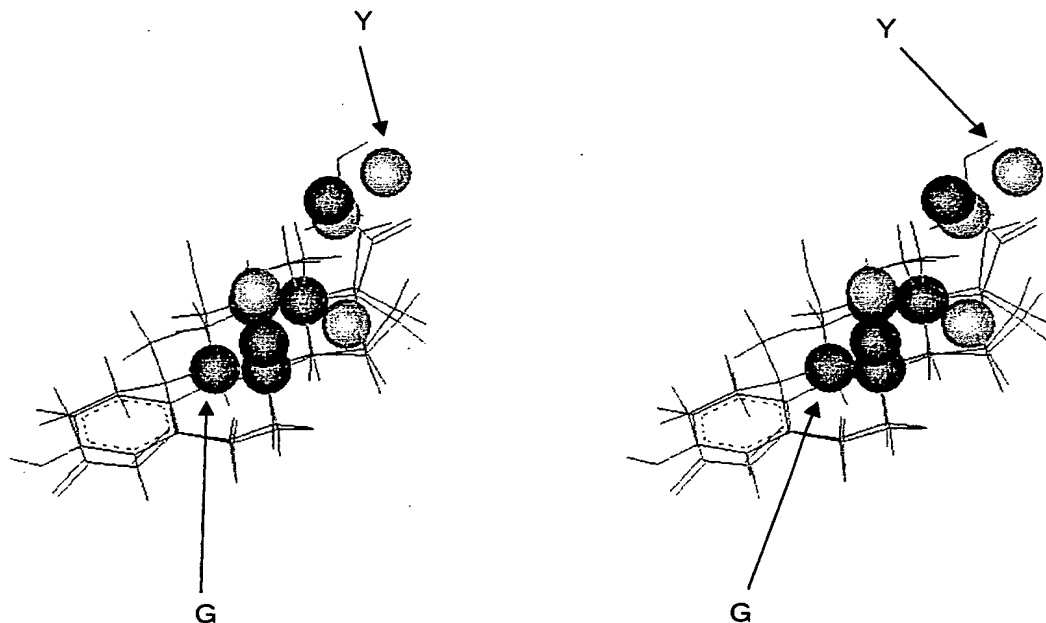
R2: 0.976

Q2: 0.741

Electrostatic :0.480

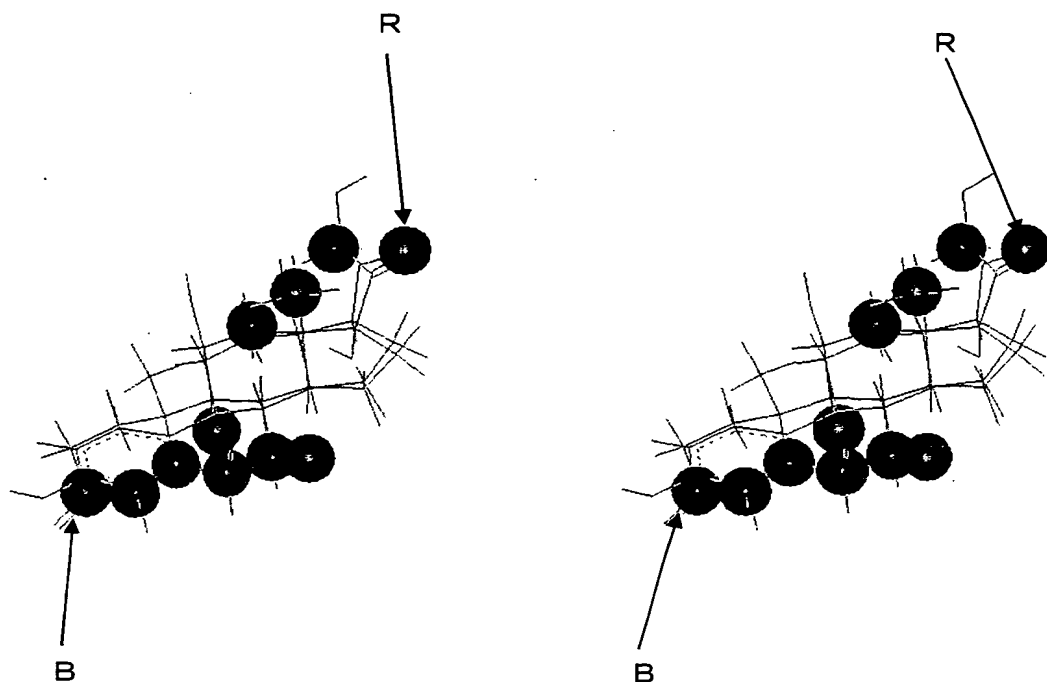
Steric :0.520

Fig.24



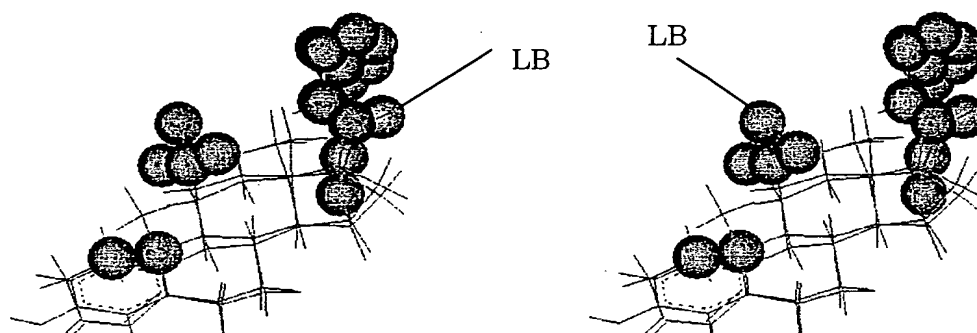
G: REGIONS WHERE ACTIVITY WILL BE ENHANCED STERICALLY
Y: REGIONS WHERE ACTIVITY WILL BE WEAKENED
(REGIONS WHERE COEFFICIENT
IN EACH COLUMN \times STANDARD DEVIATION IS 0.3 OR MORE)

Fig.25



B: REGIONS WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
R: REGIONS WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY
(REGIONS WHERE COEFFICIENT
IN EACH COLUMN \times STANDARD DEVIATION IS 0.3 OR MORE)

Fig.26

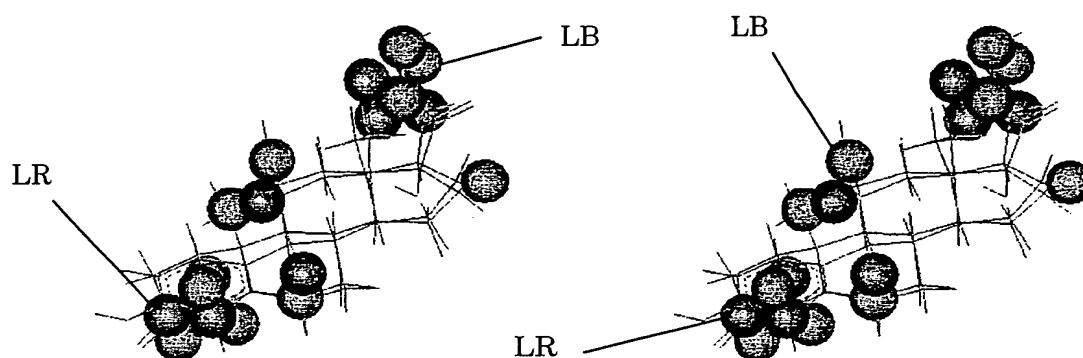


REGIONS LB (LIGHT BLUE) WHERE HYDROPHOBIC INTERACTIONS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION IS 0.02 OR MORE)

Components 1, r^2 : 0.568, q^2 : 0.381

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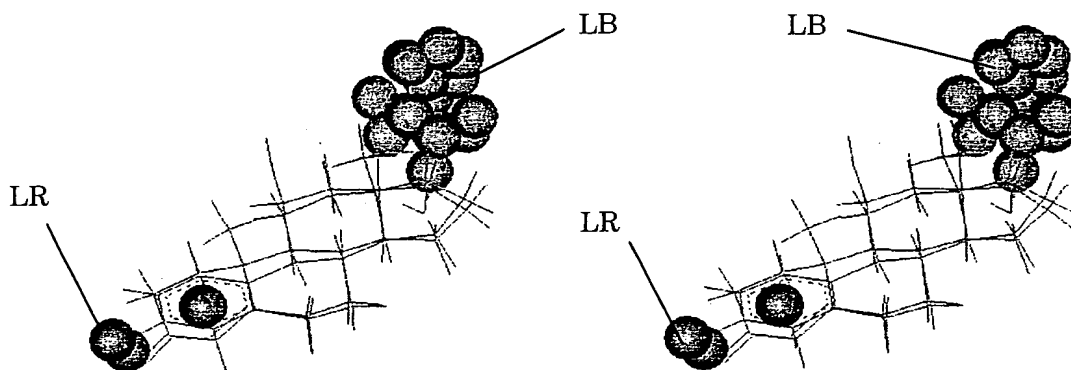
Fig.27



REGIONS LR (ORANGE) WHERE HYDROPHOBIC INTERACTIONS WILL ENHANCE ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE HYDROPHOBIC INTERACTIONS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION IS 0.03 OR MORE)

Components 2, r^2 : 0.879, q^2 : 0.707

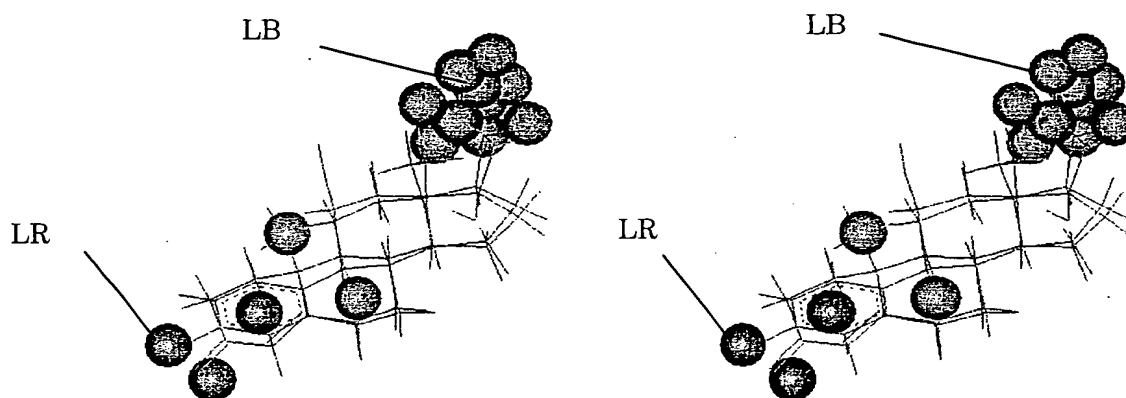
Fig.28



REGIONS LR (ORANGE) WHERE HYDROPHOBIC INTERACTIONS WILL ENHANCE ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE HYDROPHOBIC INTERACTIONS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION IS 0.02 OR MORE)

Components 2, r^2 : 0.666, q^2 : 0.408

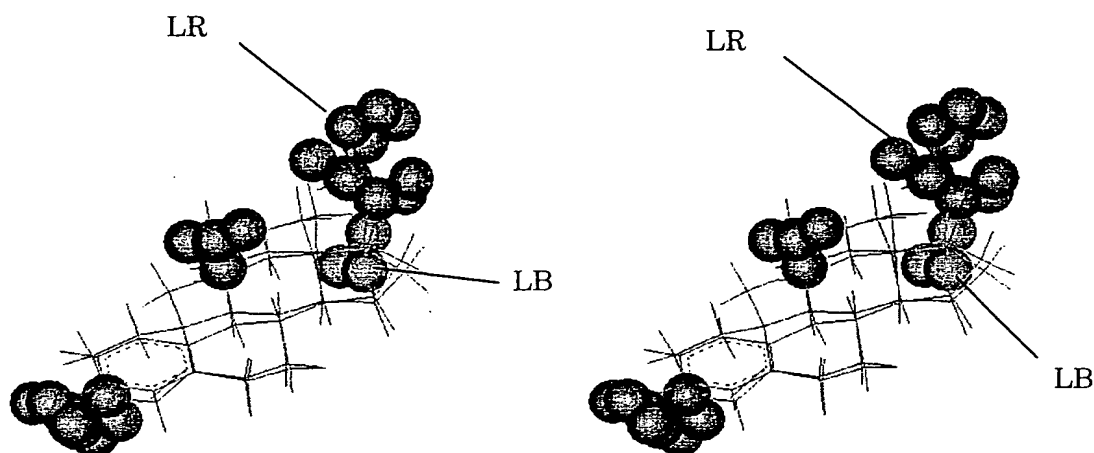
Fig.29



REGIONS LR (ORANGE) WHERE HYDROPHOBIC INTERACTIONS WILL ENHANCE ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE HYDROPHOBIC INTERACTIONS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION IS 0.03 OR MORE)

Components 2, r^2 : 0.772, q^2 : 0.442

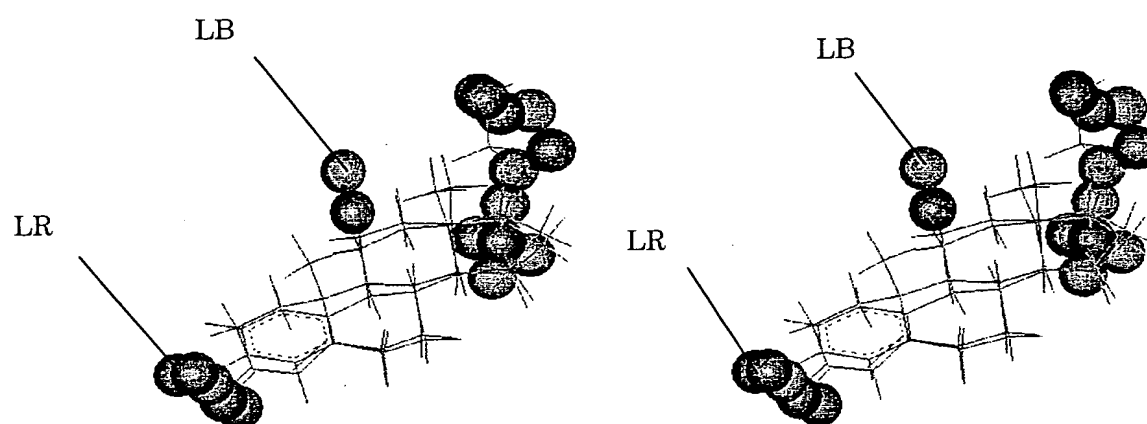
Fig. 30



REGIONS LR (ORANGE) WHERE POSITIVE HASL PARAMETERS WILL ENHANCE ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE POSITIVE HASL PARAMETERS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUM \times STANDARD DEVIATION IS 0.01 OR MORE)

Components 1, r^2 : 0.881, q^2 : 0.747

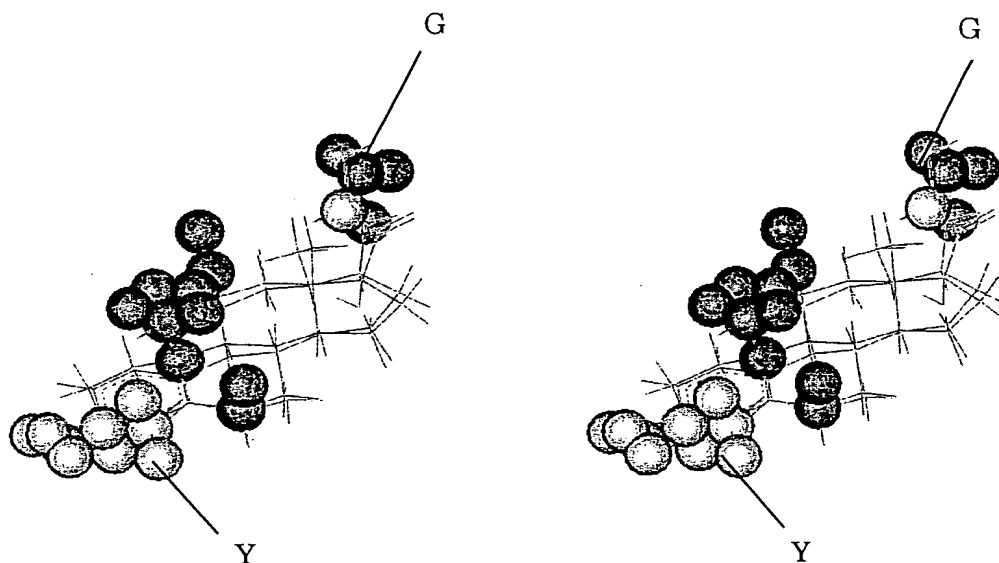
Fig.31



REGIONS LR (ORANGE) WHERE POSITIVE HASL PARAMETERS WILL ENHANCE ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE POSITIVE HASL PARAMETERS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION IS 0.03 OR MORE)

Components 2, r^2 : 0.810, q^2 : 0.534

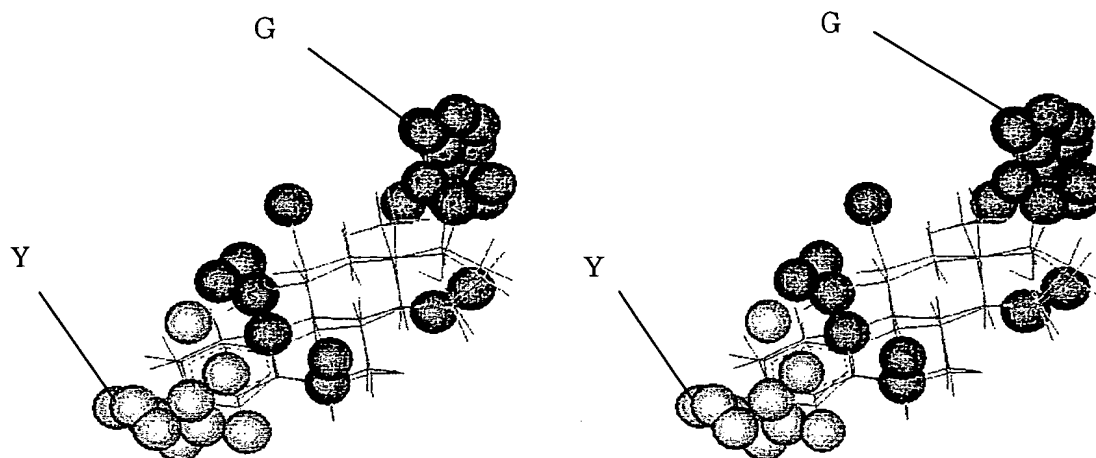
Fig.32



REGIONS G (GREEN) WHERE ACTIVITY WILL BE ENHANCED STERICALLY
AND REGIONS Y (YELLOW) WHERE ACTIVITY WILL BE WEAKENED STERICALLY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.03 OR MORE)

Components 3, r^2 : 0.847, q^2 : 0.715

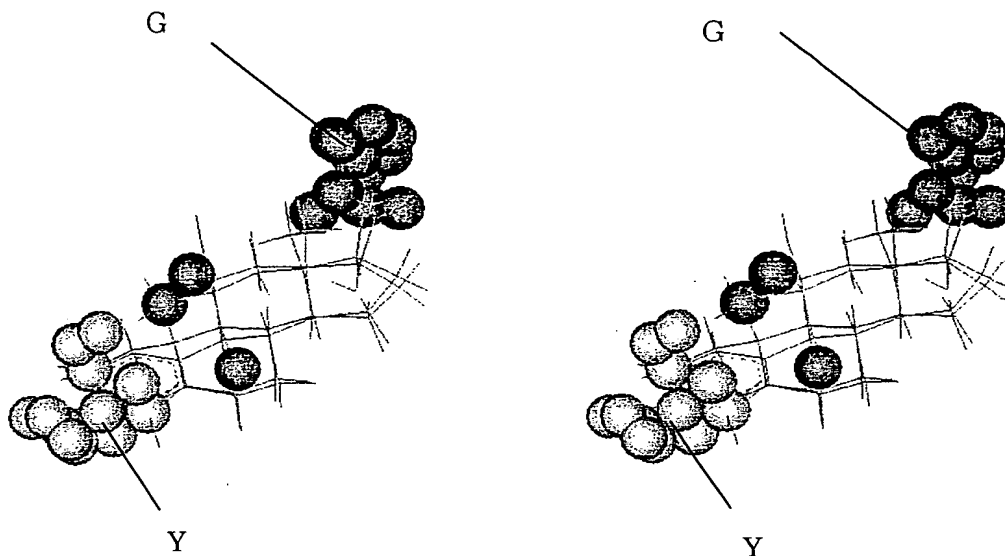
Fig. 33



REGIONS G (GREEN) WHERE ACTIVITY WILL BE ENHANCED STERICALLY
AND REGIONS Y (YELLOW) WHERE ACTIVITY WILL BE WEAKENED STERICALLY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.01 OR MORE)

Components 2, r^2 : 0.844, q^2 : 0.725

Fig.34

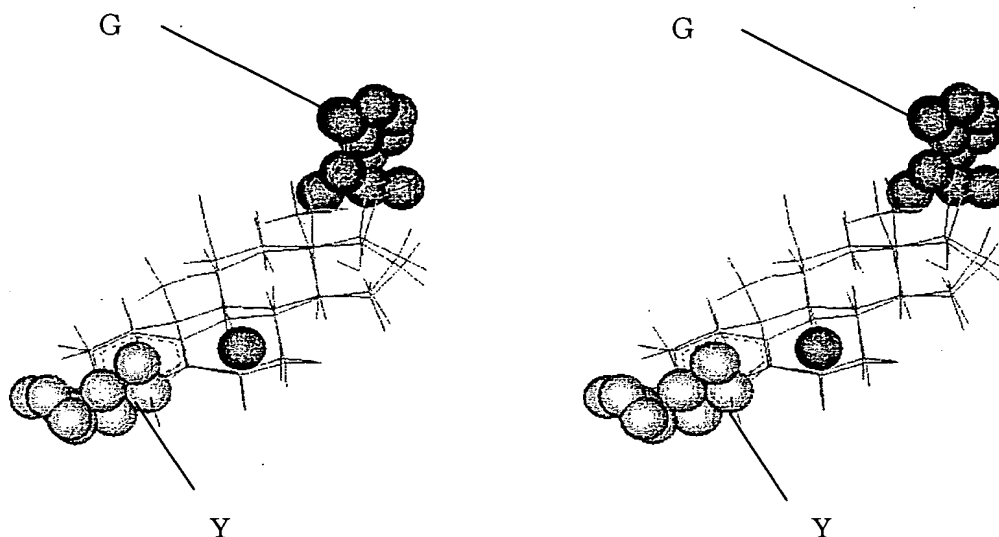


REGIONS G (GREEN) WHERE ACTIVITY WILL BE ENHANCED STERICALLY
AND REGIONS Y (YELLOW) WHERE ACTIVITY WILL BE WEAKENED STERICALLY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.01 OR MORE)

Components 2, r^2 : 0.797, q^2 : 0.698

35/50

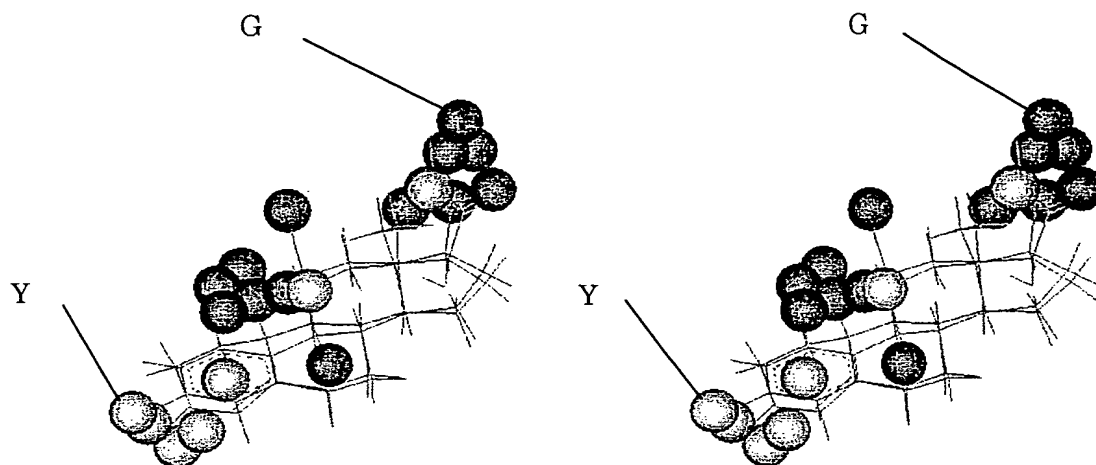
Fig.35



REGIONS G (GREEN) WHERE ACTIVITY WILL BE ENHANCED STERICALLY
AND REGIONS Y (YELLOW) WHERE ACTIVITY WILL BE WEAKENED STERICALLY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.02 OR MORE)

Components 2, r^2 : 0.781, q^2 : 0.624

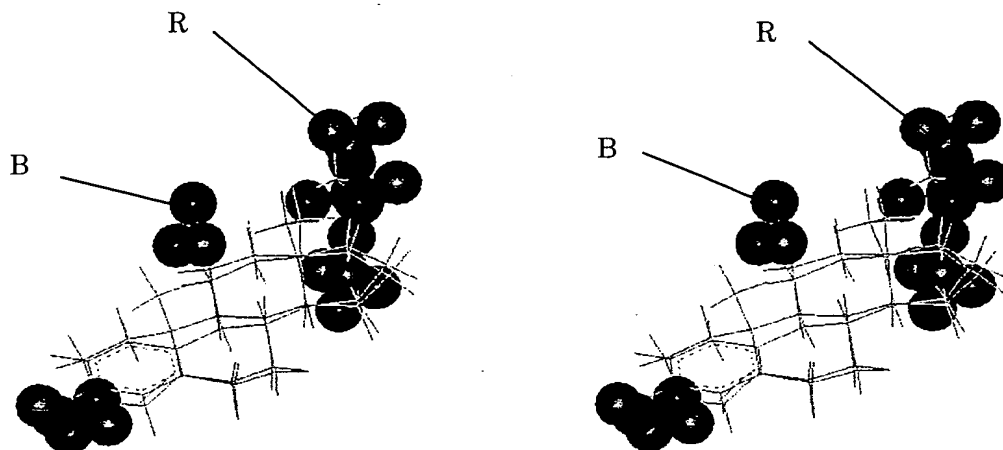
Fig.36



REGIONS G (GREEN) WHERE ACTIVITY WILL BE ENHANCED STERICALLY
AND REGIONS Y (YELLOW) WHERE ACTIVITY WILL BE WEAKENED STERICALLY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.02 OR MORE)

Components 2, r^2 : 0.902, q^2 : 0.806

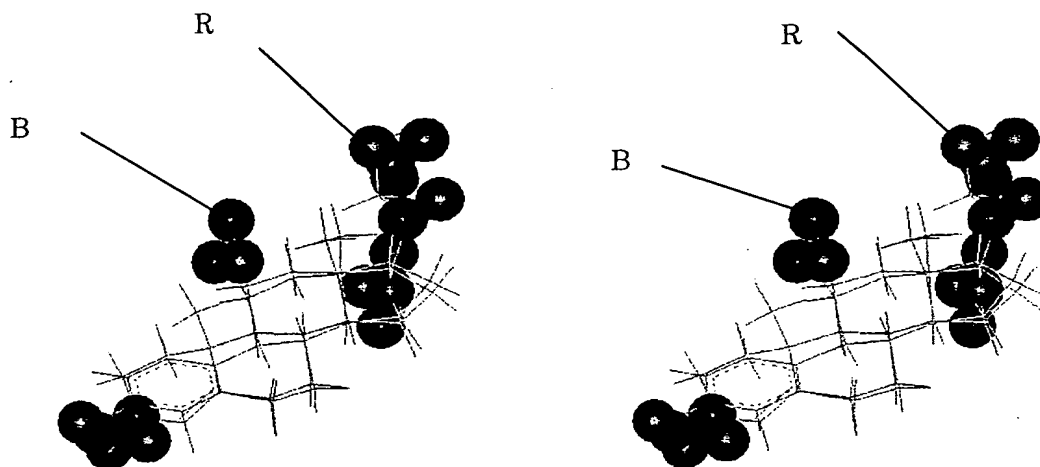
Fig.37



REGIONS B (BLUE) WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
AND REGIONS R (RED) WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.03 OR MORE)

Components 4, r^2 : 0.970, q^2 : 0.761

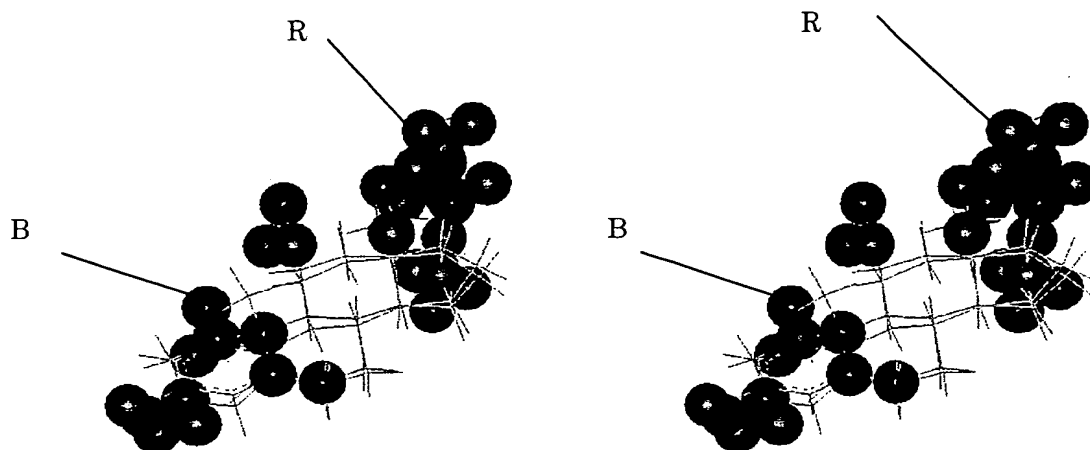
Fig.38



REGIONS B (BLUE) WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
AND REGIONS R (RED) WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.03 OR MORE)

Components 4, r^2 : 0.970, q^2 : 0.776

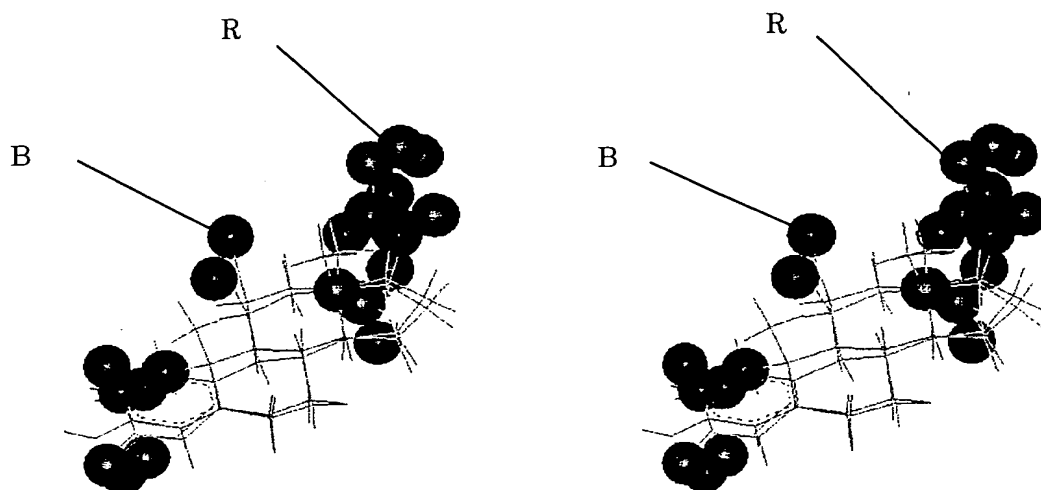
Fig.39



REGIONS B (BLUE) WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
AND REGIONS R (RED) WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.03 OR MORE)

Components 4, r^2 : 0.949, q^2 : 0.586

Fig.40

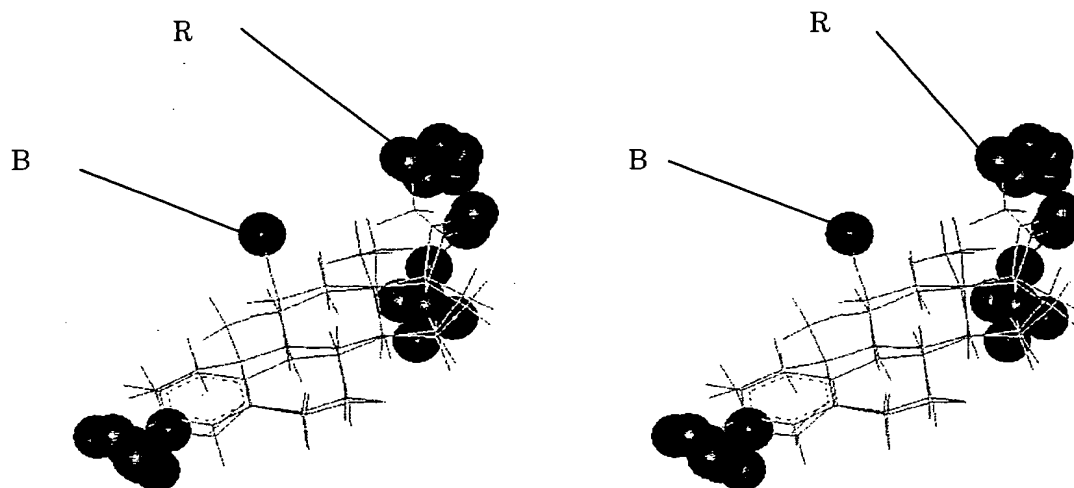


REGIONS B (BLUE) WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
AND REGIONS R (RED) WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.04 OR MORE)

Components 4, r^2 : 0.903, q^2 : 0.579

41/50

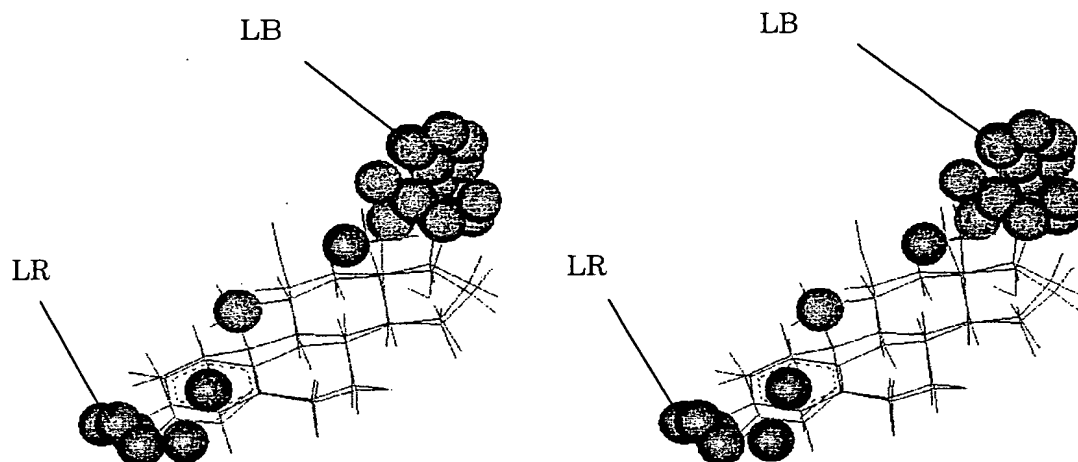
Fig.41



REGIONS B (BLUE) WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
AND REGIONS R (RED) WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.03 OR MORE)

Components 6, r^2 : 0.983, q^2 : 0.719

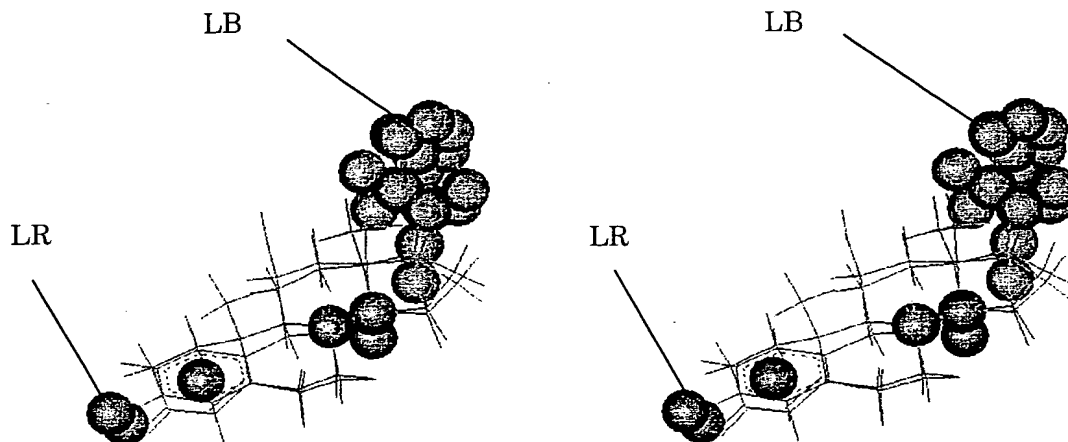
Fig.42



REGIONS LR (ORANGE) WHERE HYDROPHOBIC INTERACTIONS WILL ENHANCE ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE HYDROPHOBIC INTERACTIONS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION IS 0.02 OR MORE)

Components 2, r^2 : 0.700, q^2 : 0.254

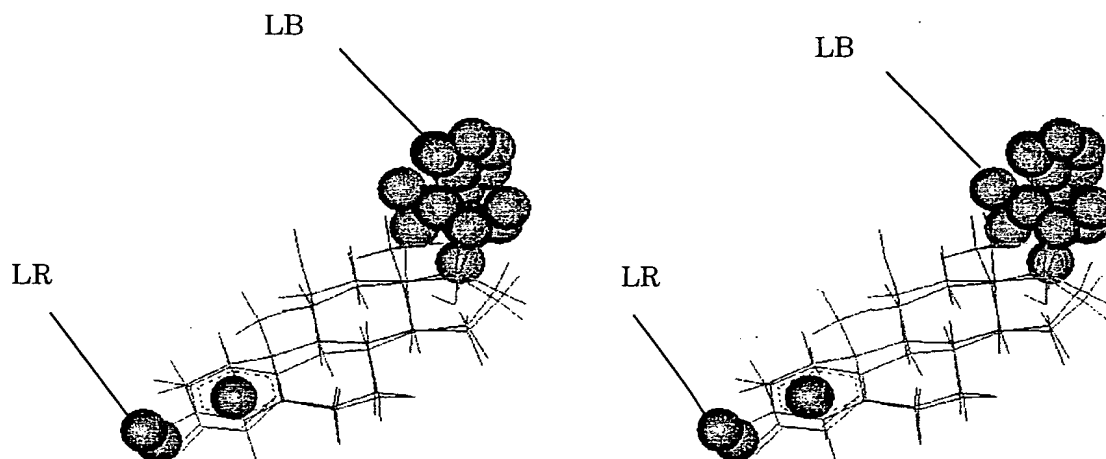
Fig.43



REGIONS LR (ORANGE) WHERE HYDROPHOBIC INTERACTIONS WILL ENHANCE ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE HYDROPHOBIC INTERACTIONS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION IS 0.02 OR MORE)

Components 2, r^2 : 0.612, q^2 : 0.171

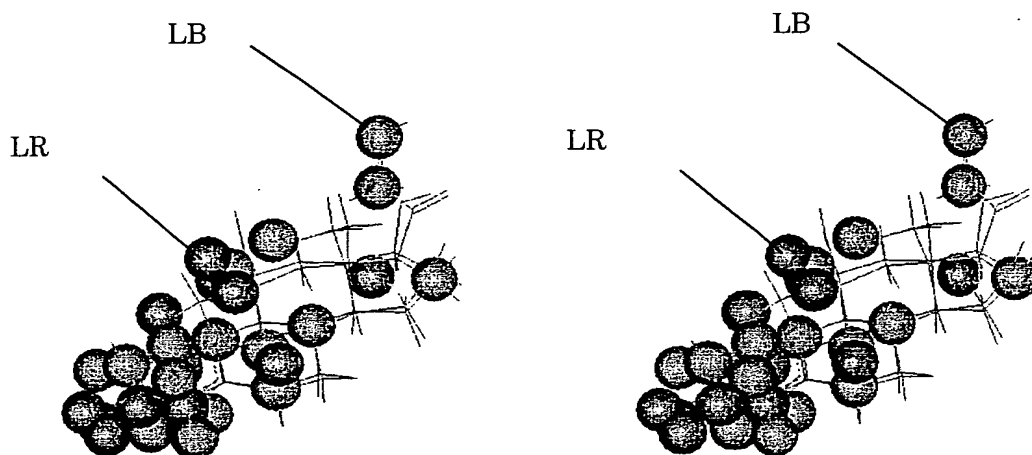
Fig.44



REGIONS LR (ORANGE) WHERE HYDROPHOBIC INTERACTIONS WILL ENHANCE ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE HYDROPHOBIC INTERACTIONS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION IS 0.02 OR MORE)

Components 2, r^2 : 0.666, q^2 : 0.408

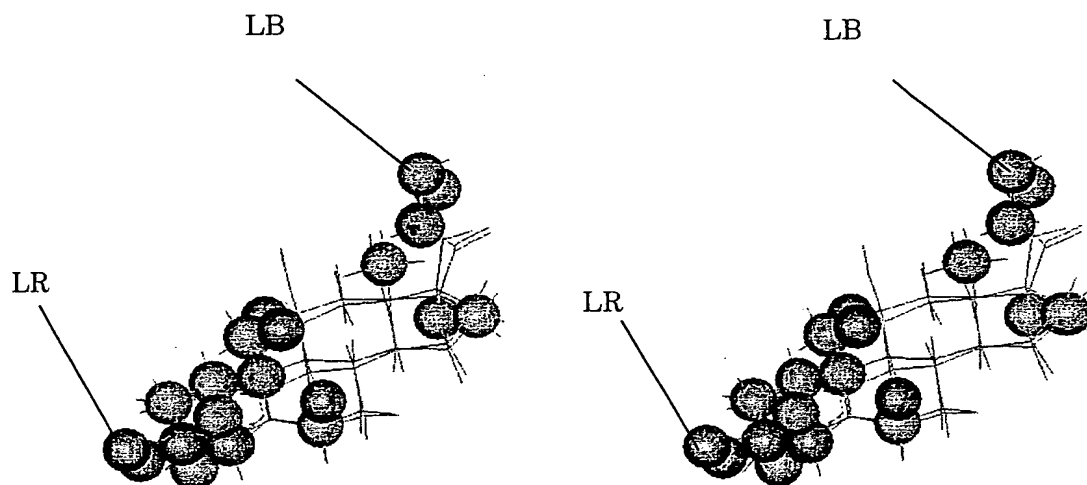
Fig.45



REGIONS LR (ORANGE) WHERE HYDROPHOBIC INTERACTIONS WILL ENHANCE ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE HYDROPHOBIC INTERACTIONS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION IS 0.04 OR MORE)

Components 4, r^2 : 0.934, q^2 : 0.705

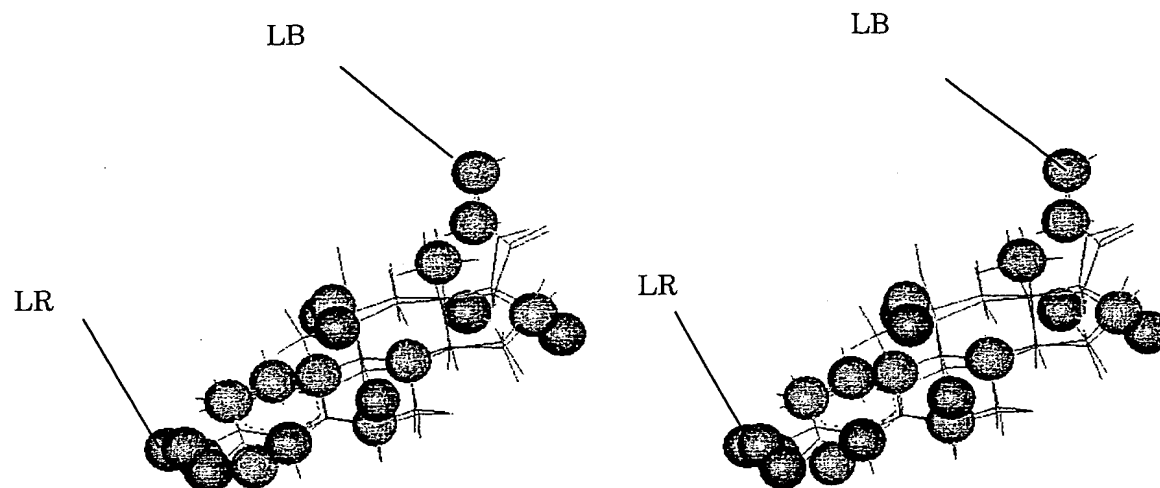
Fig.46



REGIONS LR (ORANGE) WHERE HYDROPHOBIC INTERACTIONS WILL ENHANCE ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE HYDROPHOBIC INTERACTIONS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION IS 0.03 OR MORE)

Components 3, r^2 : 0.924, q^2 : 0.741

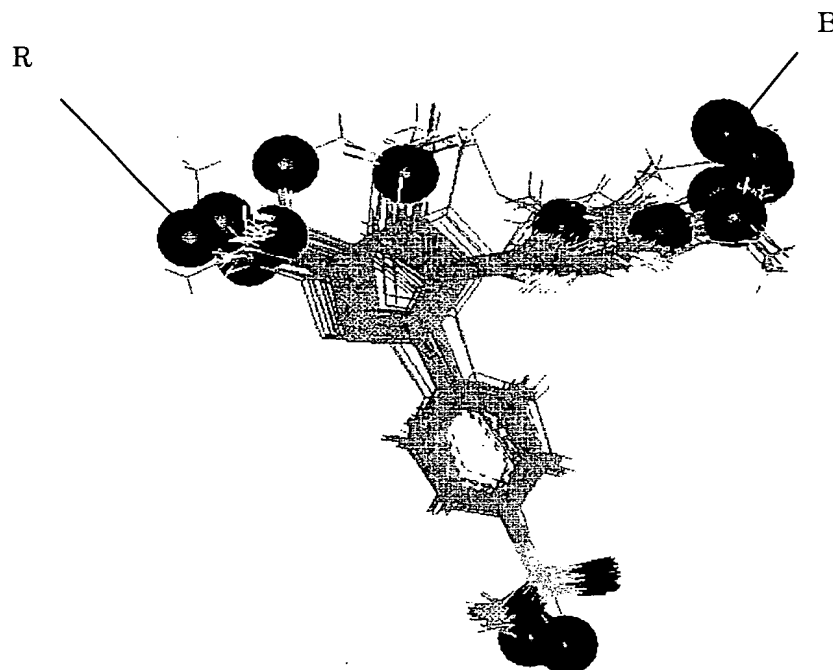
Fig.47



REGIONS LR (ORANGE) WHERE HYDROPHOBIC INTERACTIONS WILL ENHANCE ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE HYDROPHOBIC INTERACTIONS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION IS 0.02 OR MORE)

Components 5, r^2 : 0.950, q^2 : 0.744

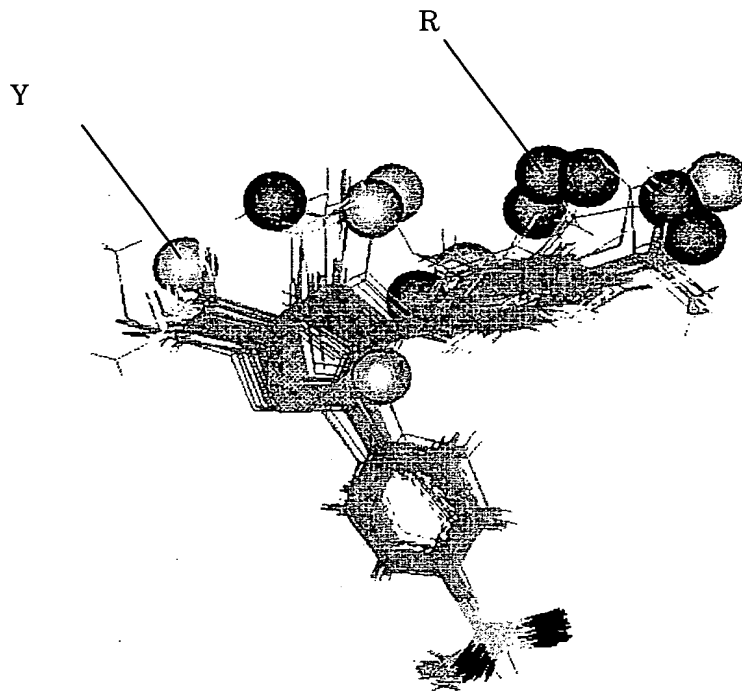
Fig.48



REGIONS B (BLUE) WHERE POSITIVE CHARGES WILL ENHANCE ACTIVITY
AND REGIONS R (RED) WHERE NEGATIVE CHARGES WILL ENHANCE ACTIVITY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.02 OR MORE)

Components 2, r^2 : 0.796, q^2 : 0.411

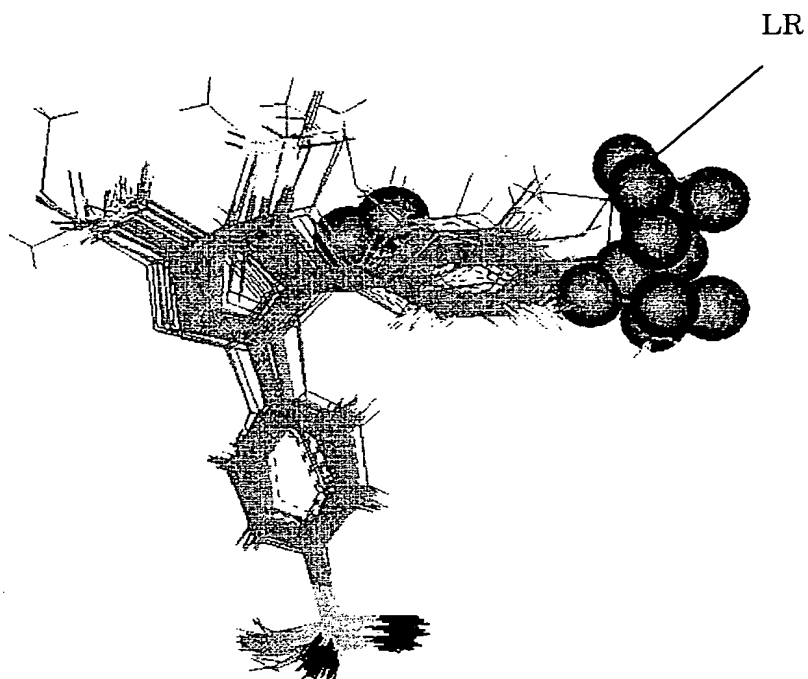
Fig.49



REGIONS G (GREEN) WHERE ACTIVITY WILL BE ENHANCED STERICALLY
AND REGIONS Y (YELLOW) WHERE ACTIVITY WILL BE WEAKENED STERICALLY
(REGIONS WHERE COEFFICIENT IN EACH COLUMN \times STANDARD DEVIATION
IS 0.02 OR MORE)

50/50

Fig.50



REGIONS LR (ORANGE) WHERE HYDROPHOBIC INTERACTIONS WILL ENHANCE
ACTIVITY AND REGIONS LB (LIGHT BLUE) WHERE HYDROPHOBIC
INTERACTIONS WILL WEAKEN ACTIVITY (REGIONS WHERE COEFFICIENT
IN EACH COLUMN \times STANDARD DEVIATION IS 0.03 OR MORE)

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